Hadi Mohammadi

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EDUCATION

Utrecht University — Utrecht, The Netherlands
Ph.D. in Explainable Natural Language Processing for Social Sciences — Feb 2023 – Nov 2025 (**2.5 years**)
Faculty of Social and Behavioral Science, Department of Methodology & Statistics

Member of: M&S Natural Language and Text Processing (*NLTP*) group and Human Data Science (*HDS*) Lab

Supervisors: Dr. Ayoub Bagheri, Dr. Anastasia Giachanou, and Prof. Dr. Daniel Oberski

Projects:

- Review on Explainable Natural Language Processing with a Focus on Applications
- Explainable Sexism Detection in Social Media Considering Human Rationalizations.
- Enhancing Human-Likeness of Generative AI through Explainable Techniques
- Exploring Cultural Variations in Moral Judgments with Large Language Models
- Assessing Reliability of Annotations in the Context of LLM Predictions and Explanations

University of Tehran — Tehran, Iran
M.Sc. in Industrial Engineering—Macro Systems; **GPA: 18.96/20 (4/4)** — Sep 2018 – Apr 2021
Thesis: "Dynamic pricing with demand learning using reinforcement learning in the non-stationary environment by considering customer behavior and Advertisement (A Data-driven Approach)"

Isfahan University of Technology, Golpayegan College of Engineering — Isfahan, Iran
B.Sc. in Engineering Last 2 years GPA: 15.98/20 (3.35/4) — Sep 2011 – Jul 2016

GRANTS & AWARDS

Swaantje Mondt Fonds: €2,500: Project "Cultural Fairness Chain of Thought in LLMs" (2025).

The focus area Applied Data Science Grant (Utrecht University), €5K: Project "Rule Extraction from Human Evaluation Using LLMs and Reinforcement Learning," in collaboration with Dr. Anastasia Giachanou and Dr. Shihan Wang (July 2025).

Centre for Unusual Collaborations (CUCo) Spark Grant, €9K: Project "ReDOSE: Towards a more Circular Pharmaceutical Industry using AI" (May 2025), in collaboration with Dr. Negin Salimi (WUR), Dr. Shayegheh Ashourizadeh (WUR), Dr. Duru Bayram (TU/e), and Dr. Saeed Arbabi (UMCU).

European Lighthouse to Manifest Trustworthy and Green AI (Enfield), €14.4K: Project on "User Perspectives on Explainable AI" (Dec 2024).

The focus area Applied Data Science Grant (Utrecht University), €7.5K: Project on "Assessing Reliability of Annotations in the Context of Model Predictions and Explanations" in collaboration with Dr. Pablo Mosteiro Romero, Dr. Anastasia Giachanou, and Prof. dr. Massimo Poesio, (Dec 2023).

Scholarship for Admission: the Explainable AI (XAI) Summer School TU Delft, The Netherlands, (Aug 2022).

Ranked 2nd of graduate student: Among more than 50 graduate students of Industrial Engineering at the University of Tehran, (Apr 2021).

Best Paper Award: in the second national conference of the Iranian System Dynamics Society, (2019)

Ranked 35th: in the nation Iranian university entrance exam for Master of Industrial Engineering among more than 10K participants, (Sep 2018).

LEADERSHIP & REPRESENTATION

Founder of Young Scholar Networks for NLP@U: Established this group uniting PhD candidates, postdocs, and junior researchers working on NLP and text mining across Utrecht University and UMC Utrecht.

LERU Doctoral Summer School Representative: Selected as the representative of the Faculty of Social and Behavioural Sciences, Utrecht University, for the 2025 LERU Doctoral Summer School.

TEACHING EXPERIENCE

Transformers Workshop, **University Medical Center Utrecht** — Utrecht, The Netherlands
Practical Assistant — Dec 2023

- Supervised practical sessions in Python alongside Dr. Ayoub Bagheri and Prof. Dr. Albert Gatt.

Data Wrangling and Data Analysis, Utrecht University — Utrecht, The Netherlands
Computer Lab Assistant — *Sep 2023 – Oct 2023*

- Assisted in the Master in Applied Data Science (*ADS*) course, focusing on R for Data Visualization, EDA, Supervised Learning, and Text Mining.

Deep Learning Summer School, Neuromatch Academy — Los Angeles, USA (Remote)
Lead Teacher Assistant — *Aug 2021 – Sep 2021*

- Facilitated international student learning and coordinated with mentors and organizers.

SELECTED WORK EXPERIENCE

AcademicTransfer (Academic job-boarding company) — Utrecht, The Netherlands – Part-time
GenAI & LLMs Specialist — *Jan 2023 – Present (+19 months)*

- Developed *CV Priority Sorter* using Active Learning and Large Language Models (LLMs), cutting HR hiring time by 20%.
- Built end-to-end generative-AI pipelines for automatic insight extraction and de-identification from CVs, improving candidate–job alignment accuracy by 17% and halving manual effort.

Utrecht University, School of Economics — Utrecht, The Netherlands
Researcher & NLP Developer in the *FIRMBACKBONE project* — *Feb 2024 – Mar 2024 (13 months)*

- Developed *fbb-sustainability-analysis-cli*, adding a keyword extractor for sustainability terms and an index generator that scores websites on sustainability content.

SnowaTec (Innovation Center) – Entekhab Electronic — Tehran, Iran – Full-time
Senior Data Scientist in Customer Behavior — *Dec 2021 – Dec 2022 (12 months)*

- Managed the enterprise data warehouse with modern ETL tooling, improving data accessibility by 16%.
- Defined KPIs and a customer-satisfaction index that lifted satisfaction by 2%.
- Created interactive Power BI dashboards for data-driven decisions at all management levels.
- Implemented ML-based customer segmentation, boosting targeted marketing impact and customer experience by 7.5%.

Bdood.bikes (Shared Bicycle System) — Tehran, Iran – Full-time
Medior Data Scientist & Business-Intelligence Analyst — *Apr 2020 – Oct 2020 (7 months)*

- Implemented dynamic pricing and ML-based usage predictions, increasing revenue and rider experience by 5%.
- Built dashboards with Power BI, Streamlit, and Dash Plotly, boosting engagement by 3%, efficiency by 7%, and station space utilisation by 11%.
- Optimised fleet intelligence, cutting maintenance and relocation costs by 8% and 3% respectively, and raising system performance by 2.7%.
- Led user-behaviour analyses that improved customer retention by 4.5%.

Bdood.bikes (Shared Bicycle System) — Tehran, Iran – Full-time
Junior Data Scientist — *Jul 2019 – Apr 2020 (10 months)*

- Led predictive-maintenance analysis and battery-health algorithm development, reducing downtime by 3.8% and extending battery life.
- Applied GIS models to identify high-risk riders, enhancing safety by 3% and user experience by 5%.
- Provided marketing and business-analytics insights that contributed to a 6% rise in revenue and engagement.

ADDITIONAL PROFESSIONAL DEVELOPMENT

Generative Modeling Summer School, Eindhoven University of Technology — Eindhoven, The Netherlands
Focus on Deep Generative Modeling — *June 2024*

Machine Learning Summer School, University of Oxford — Oxford, UK
Specialization in Finance & NLP/Health — *May 2023 – Jul 2023*

Explainable AI (XAI) Summer School, TU Delft — Delft, The Netherlands
Focus on Post-hoc Interpretability in ML — *Aug 2022*

Executive Master in Finance (EMFin), Sharif University of Technology — Tehran, Iran
One-Year Comprehensive Finance Program — *Nov 2021 – Nov 2022*

PUBLICATIONS

Mohammadi, H., Papadopoulou, E., Meijer, M., & Bagheri, A. (2025). Exploring Cultural Variations in Moral Judgments with Large Language Models. (Under review Applied Artificial Intelligence journal).

Mohammadi, H., Meijer, M., Papadopoulou, E., & Bagheri, A. (2025). Do Large Language Models Understand Morality Across Cultures? (2nd Workshop on Language Understanding in the Human-Machine Era, ECAI 2025 conference).

Mohammadi, H., Giachanou, A., Oberski, D., & Bagheri, A. (2025). Explainability-Based Token Replacement on LLM-Generated Text. (Under review Journal of Artificial Intelligence Research).

Mohammadi, H., Shahedi, T., Mosteiro Romero, P., Poesio, M., Bagheri, A., & Giachanou, A. (2025). Assessing the Reliability of Annotations in the Context of LLMs Predictions and Explanations. (Workshop on Gender Bias in Natural Language Processing (GeBNLP), ACL 2025 conference).

Mohammadi, H., Bagheri, A., Giachanou, A., & Oberski, D. (2025). Explainability in Practice: A Survey of Explainable NLP Across Various Domains. (Under review Journal of Information Science).

Mohammadi, H.A., Giachanou, A. Bagheri,(2023).A Transparent Pipeline for Identifying Sexism in Social Media: Combining Explainability with Model Prediction. Published by Applied Sciences Journal

Fivez, P., Daelemans, W., Van de Cruys, T., Kashnitsky, Y., Chamezopoulos, S., **Mohammadi, H.**, A., Bagheri, A., Poelman, W., Vladika, J. & Ploeger, E. (2024). The CLIN33 Shared Task on the Detection of Text Generated by Large Language Models. Computational Linguistics in the Netherlands Journal, 13, pp.233-259.

Mohammadi, H., Giachanou, A., & Bagheri, A. (2023). Towards Robust Online Sexism Detection: A Multi-Model Approach with BERT, XLM-RoBERTa, and DistilBERT for EXIST 2023 Tasks. CLEF 2023 Conference and Labs of the Evaluation Forum, Thessaloniki, Greece.

Mirabnejad, M., **Mohammadi, H.**, Mirzabaghi, M., Aghsami, A., Jolai, F., & Yazdani, M. (2022). Home Health Care Problem with Synchronization Visits and Considering Samples Transferring Time: A Case Study in Tehran, Iran. International Journal of Environmental Research and Public Health, 19(22), 15036.

Mohammadi, H.(2022). Statistical Reinforcement Learning with Application in Dynamic Pricing Problem: Learning from Customer Interaction based on Bayesian Approach. Tehran: Arshadan Publication.

VOLUNTEER ACTIVITY

Communications Chair of BNAIC/BeNeLearn 2024, Joint International Scientific Conferences on AI and Machine Learning, Utrecht University, 2024.

SUPERVISION

Meijer Meijer, Evi Papadopoulou, Lourenço Santos Moitinho de Almeida (ADS master theses, co-supervised with Dr. Ayoub Bagheri, 2024). Hein Brouwer, Tamás Kozák, Mohamad Jouhar (ADS master theses, co-supervised with Dr. Anastasia Giachanou, 2025).

SKILLS

Research Interests: Natural Language Processing, Explainable AI, Fairness in machine learning. Generative AI, Reinforcement Learning, and Human-AI Collaboration.

Technical Skills: Advanced in Python, R, and SQL. Skilled in version control with Git. Experienced in TensorFlow, PyTorch, Scikit-learn, and similar frameworks for Machine Learning, ETL processes, and Data Warehouse Management using Microsoft Visual Studio. Familiar with cloud technologies like Microsoft Azure, as well as known Big Data tools like Apache Hadoop. Proficient in LaTeX. Understanding the architecture and application of large language models like GPT, BERT, and others.

Soft Skills: Exceptional in Critical Thinking and Adaptability with a proven track record in Problem-Solving. Known for Perseverance and Attention to Detail. Strong collaborator and effective in Teamwork environments.

Language Proficiency: Native in Farsi, Advanced proficiency in English, and learning Dutch.

REFERENCES

Dr. Ayoub Bagheri, Associate Professor, Utrecht University — `a.bagheri@uu.nl`

Dr. Anastasia Giachanou, Assistant Professor, Utrecht University — `a.giachanou@uu.nl`

Prof. dr. Daniel Oberski, Professor, Utrecht University — `d.l.oberski@uu.nl`